## **CLAIMS:**

1. (currently amended) A method of manufacturing an insulated component, the method comprising:

providing a substrate having a surface;

depositing a layer of ceramic insulating material on the substrate surface; and forming a continuous gap in a top surface of the layer of ceramic insulating material to define segments therein, the continuous gap having a width at the top surface of less than 100 microns;

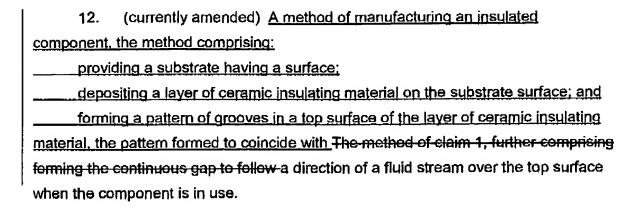
further comprising forming the continuous gap by:
exposing the top surface to a first pass of laser energy having a first parameter
to form the continuous gap; and
exposing the continuous gap to a second pass of laser energy having a second
parameter different than the first parameter to change a geometry of the continuous
gap.

- 2. (original) The method of claim 1, further comprising forming the continuous gap to have a width of less than 75 microns.
- 3. (original) The method of claim 1, further comprising forming the continuous gap to have a width of less than 50 microns.
- 4. (original) The method of claim 1, further comprising forming the continuous gap to have a depth that does not extend through an entire thickness of the layer of ceramic insulating material.
- 5. (original) The method of claim 1, further comprising forming the continuous gap using a laser engraving process.

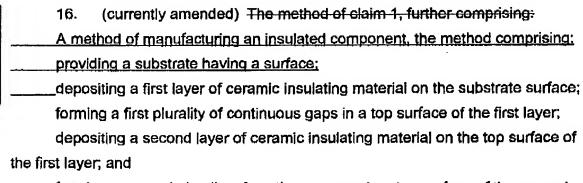
 (previously presented) The method of claim 1, further comprising: forming a first plurality of continuous gaps to a first depth into the top surface;

forming a second plurality of continuous gaps to a second depth different than the first depth into the top surface.

- 7. (cancelled).
- 8. (currently amended) The method of claim—7\_1, wherein the second pass of laser energy has a wider beam footprint than that of the first pass of laser energy.
- 9. (currently amended) The method of claim—7\_1, wherein the second pass of laser energy has a pulsation frequency that is greater than that of the first pass of laser energy.
- 10. (original) The method of claim 1, further comprising forming the continuous gap using laser energy delivered through a fiber optic cable.
- 11. (original) The method of claim 1, further comprising forming the continuous gap with a laser engraving process using a tens having a focal length of at least 160 mm in order to reduce accumulation of molten material splashed onto the lens during the laser engraving process.



- 13. (original) The method of claim 1, further comprising forming a plurality of continuous gaps in the top surface at a spacing between adjacent gaps of less than 750 microns.
- 14. (original) The method of claim 13, further comprising forming the plurality of continuous gaps in the top surface at a spacing between adjacent gaps of less than 500 microns.
- 15. (original) The method of claim 13, further comprising forming the plurality of continuous gaps in the top surface at a spacing between adjacent gaps in a range of 500-750 microns.



forming a second plurality of continuous gaps in a top surface of the second layer.

17. (original) The method of claim 16, further comprising forming each of the gaps in the top surface of the second layer to have a width at the top surface of less than 100 microns.

Claims 18-35 (cancelled).

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- 36. (previously presented) The method of claim 16, wherein the first plurality of continuous gaps defines a preferential failure interface between the layers of ceramic insulating material, and further comprising depositing the second layer of ceramic insulating material to a critical depth selected to allow the deposited ceramic insulating material to spall along the preferential failure interface in response to an expected thermal transient in order to present a fresh layer of the ceramic insulating material to a surrounding high temperature environment.
- 37. (new) The method of claim 1, further comprising exposing the continuous gap to the second pass of laser energy to widen a bottom of the gap into a generally U-shaped bottom geometry.
- (new) A method of manufacturing an insulated component, the method 38. comprising:

providing a substrate having a surface;

depositing a layer of ceramic insulating material on the substrate surface to have a first void fraction in a bottom portion proximate the substrate surface and to have a second void fraction, less than the first void fraction, in a top portion proximate a top surface of the layer of ceramic insulating material; and

forming a groove in the top surface of the layer of ceramic insulating material to define a plurality of segments therein, the groove being formed by exposing the top surface to a plurality of passes of laser energy having respectively different parameters to widen a bottom of the groove to have a generally U-shaped bottom geometry.

39. (new) The method of claim 38, further comprising forming the groove to follow a path coinciding with a direction of a fluid stream flowing over the top surface when the component is in use.